Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

REPORT OF THE COUNCIL.

The Academy has lost seventeen members by death since the annual meeting of May 14, 1902: eight Resident Fellows, — William Sumner Appleton, James Elliot Cabot, Horace Gray, Henry Barker Hill, Charles Greely Loring, Henry Mitchell, John Daniel Runkle, Morrill Wyman; four Associate Fellows, — Josiah Willard Gibbs, John Wesley Powell, Ogden Nicholas Rood, Alfred Richard Cecil Selwyn; five Foreign Honorary Members, — Hervé Auguste Etienne Albans Faye, Gaston Bruno Paulin Paris, Sir George Gabriel Stokes, Bart., Rudolph Virchow, Heinrich von Wild.

ALPHEUS HYATT.

Our beloved and highly honored associate, who, in the ripeness of his intellectual powers, has been so suddenly snatched from us, was cast in no ordinary mould. Whether we regard him as a man, a patriot, a fellow student, a scientific investigator, an organizer of societies, of museums, or of methods of science-teaching, his many-sided life was a rare one. We come together to pay tribute to the memory of Alpheus Hyatt as a promoter of scientific enterprises, as one of the founders of a new school in the philosophy of biology, as a master in paleontological methods, endowed as he was with rare powers of mental absorption and concentration, and an unusual capacity for sound generalization.

The nineteenth century, as regards natural science in the United States of America, was a period of pioneer effort, and has been characterized by the careers of several great men. Their lives, unlike those of European savants, whose museums, laboratories, and methods of research had often been founded by a previous generation, had to be devoted, so to speak, to opening and laying out roads, to founding and building institutions, and making the way straight for the generations to come.

Such men were Henry, Dana, Agassiz, Wyman, Rogers, Hall, Baird, and others, all full of love for original research, but who unselfishly gave up much of their time, so dearly valued for private studies, to developing and expanding the educational and scientific resources of a young people.

Those who were pupils of that large-hearted, enthusiastic son of genius, Louis Agassiz, well know the sacrifices he made in the country of his adoption, in devoting the later years of his life to the foundation of the Museum of Comparative Zoölogy, to popularizing science, to illustrating the dignity of scientific studies, and enforcing the value of research in our colleges and young universities.

The lines thus drawn were followed by Hyatt; and it is safe to say that the impress he has made on zoölogical and geological science is deep and lasting.

Born in Washington, D. C., April 5, 1838, of Maryland parentage, Alpheus Hyatt was sent to the Maryland Military Academy, but afterwards entered Yale College, completing the freshman year, class of 1860. He then travelled a year in Europe, and as he once told us, strong family and clerical influence were brought to bear upon him while in Rome to induce him to enter the Church, his family being of the Roman Catholic faith.

He entered the Lawrence Scientific School in 1858; our acquaintance began in 1861. The pupils of Agassiz were then domiciled in Zoölogical Hall, a small two-story wooden building which stood on the site of the Peabody Museum of American Archaeology. We were soon interested and attracted by young Hyatt. Although he originally elected to make engineering his profession, he, with for that period a rather large number of other young men, was attracted by the fame and charming personality of Agassiz, as well as by the zoölogical treasures of the already rich and carefully selected museum. Hyatt's patience and his dogged perseverance, his powers of concentration, his philosophical tendencies, attracted our attention, while his open, frank, sunny disposition, his companionable, jovial, unselfish, pure spirit and scholarly aims, at once secured our love and respect. He was then and through life an all-round man, though very early in his studies specializing on the fossil Cephalopods.

Tyndall's "Heat as a Mode of Motion" had just appeared, and debates on the higher physics, in which he took a leading part, alternated with communications on the position of the Tunicata, of the Polyzoa, Brachiopods, and other types at the meetings of our Zoölogical Club. Hyatt was artistic in his tastes, drawing well on the blackboard, and handling the pencil with ease and facility. He read good literature, was a regular attendant on the lectures of Professor Lowell, and constantly present at the courses of that model of scientific lecturers, Professor Jeffries Wyman.

He was graduated with high honors under Professor Agassiz in 1862. The Civil War was then raging, and the young patriot, having already received the elements of military training, enlisted, though naturally not without opposition from his family in Maryland, and was active in raising a company in Cambridge. He received a commission in 1862 as a lieutenant, but soon rose to the rank of captain in the Forty-seventh Massachusetts Regiment, serving as aide-de-camp nine months, for the most part in New Orleans.

After being mustered out of the army he lived in Boston some time during 1865-66, and it was then, and afterwards in Salem, that we came to know him still more intimately than at Cambridge, as we were at times room-mates. Over our friendship, our mutual love and respect, a cloud never passed. The purity and unaffected goodness, nobility of character, sturdy honesty and reliability as a friend, were as conspicuous then as in his last years. His filial devotion was marked, and in later life the kindness and chivalric courtesy, acts of kind-heartedness and thoughtfulness which in some instances it gave him some trouble to perform, to an elderly lady as well as to other friends in need, will be treasured up in our memory. Of his delightful domestic life, the warm-heartedness of his welcome to his hospitable home, his friends will ever retain the most agreeable recollections.

In the foundation and organization of scientific and educational enterprises, societies, journals, and museums, Hyatt always lent a willing hand. Gifted with a fair amount of executive ability, with clear, persuasive powers of expression, a ready debater, often a powerful speaker, and excellent in planning, besides having a somewhat wide knowledge of men, he was most useful in promoting such undertakings.

In 1867 he, with three other pupils of Agassiz, became one of the curators of the Essex Institute, and in 1869 he took an active and most useful part in the foundation of the Peabody Academy of Science at Salem, Mass., where he served as one of the curators.

As Custodian of the Boston Society of Natural History from 1870 to the end of his life, he planned an arrangement of the museum in accordance, so far as was possible, with the phylogeny of the animal kingdom, beginning with the Protozoa. He was one of the two founders of the Teachers' School of Science, becoming its manager, and in this way accomplished a vast amount of good in training the teachers of Boston and its vicinity in the elements of natural history. While living in Salem he was one of the founders and editors of the "American Naturalist," contributing frequently to its pages.

The principal founder of the American Society of Naturalists, we well remember the zeal and interest he took in organizing this at present influential body, the preliminary meeting being held by a few at Springfield, Mass., in April, 1883. If we mistake not, he gave the name to the society. He was its first president, and a few years ago was elected an honorary member in recognition of his services.

He also founded and organized a seaside laboratory at Annisquam, Mass., under the auspices of the Woman's Education Association of Boston. He took personal charge of it, as his summer home was there. His interest in this school, and in marine zoölogy, led him to take part in the foundation of the Biological Laboratory at Wood's Holl. As an indication of the value of his services as an expert in zoölogy and his ability as an organizer, he was elected the first president of its board of trustees. He was elected a fellow of this Academy in 1869.

Throughout his life, after graduation at Harvard University, he was an honorary Assistant Curator in the Museum of Comparative Zoölogy, in charge of the collection of fossil Cephalopods. In 1888 he was offered the position of United States Commissioner of Fish and Fisheries, but preferred to live the almost ideal life, with its rich opportunities for research, which he rounded out at his home in Cambridge.

Professor Hyatt was not only a specialist, but a generalizer, a philosopher. His special, detailed, observational work was continually leading him to broad, sound generalizations, and not only in the field of embryology, taxonomy, and phylogeny, but of general organic evolution. He was a slow worker, very patient, cautious, constantly reviewing his work and conclusions. He was not always luminous in exposition; he sometimes, especially early in his life, failed from want of training and practice in writing, to state clearly and pointedly the views that crowded his mind. But this defect was largely outgrown. For this reason his first essay on "Parallelism," etc., was not understood by Mr. Darwin, as well as others who had not had experience in similar studies, but this defect of style was overcome in his later memoirs.

As the result of his manner of investigation, Hyatt became an acknowledged master in the methods of paleontology, in a mode of treatment of fossil forms then comparatively new to paleontology, due to his long and thorough training in zoölogy, comparative anatomy, and embryology. Before his time paleontologists, with the exception, of course, of Cuvier, Owen, Huxley, and Agassiz, had had but little training in anatomy and taxonomy. Hyatt's patient and beautiful studies on the fresh water Polyzoa, carried on in the sixties; his later studies on the sponges, on the molluscs, other than Cephalopods; his experience as a teacher of zoölogy and paleontology in the Massachusetts Institute of Technology from 1870 to 1881, and of zoölogy in Boston University from 1877 to the time of his death, in addition to his museum work, kept him informed of biological methods and results; while his field work in the paleozoic rocks of southern Labrador, of Newfoundland, and his work about Salem, but more especially his work in 1889 and succeeding years as paleontologist in charge for the U. S. Geological Survey of the lower Mesozoic (Trias and Jura), carried on in Texas and in California, besides his earlier studies at Steinheim, Germany, afforded him the means of observing and accumulating many facts, and of forming broad conclusions from many points of view.

His prolonged and life-long studies on the Cephalopods were thorough and exhaustive, and from them were wrung the basal principles of evolution, — work which for thoroughness and far-reaching results has seldom been surpassed, and which not only is of the highest value and interest to students of molluscs, but has already exerted and will continue to exert a wide influence on the progress of general zoölogy.

The permanent fame of our deceased associate will, we venture to claim, be based on his contributions to the embryology, laws of growth of the shells, and the phylogeny of the Cephalopod molluscs; and on his profound studies on the modifications of the tertiary shells at Steinheim near Stuttgart, Germany.

He will also be remembered for his conclusions on the position of the sponges. As far as we are aware he was the first one after McAllister, in a paper published in 1876, entitled "Sponges considered as a distinct Sub-kingdom of Animals" * to refer these organisms to a separate, independent branch or phylum of the animal kingdom.

The outcome of these studies resulted in his valuable contributions to the philosophy of biology. He was one of the founders and upholders of Neolamarckism, and even if the value of that phase of the evolution theory be called in question, he will be remembered as having been the discoverer of a series of facts of astonishing number and variety, all converging to one grand result, that of affording a true, solid basis for the theory of organic evolution.

---

* Proceedings Boston Society of Natural History, XIX. Nov. 1, 1876. Hyatt claimed in this paper that during the previous year he regarded the sponges as distinct from the rest of the animal kingdom. l. c., p. 14. In this paper also, he rejected the position assigned them by Haeckel in the Coelenterata.

For a number of years Dr. Hyatt was engaged in a study of the origin and lines of evolution of the land shells peculiar to the Hawaiian Islands, on which the Rev. John T. Gulick had already (1887–1890) made such interesting and suggestive studies. Hyatt had presented several communications to scientific societies, showing the progress made in his work. His beautiful model of the islands, and arrangement of the actual shells fastened to the surface of the model, with cords of different colors showing the lines of migration and corresponding segregations and consequent differentiation of the specific forms, gave promise of the most valuable and fruitful results. He was planning to make a journey to the Hawaiian Islands in March of the present year, when death overtook him. But the results of his long continued labors will, it is hoped, not be lost to science, as arrangements were made previous to his death for their completion by a capable hand.

The first paper of a general nature which young Hyatt published * contained the germ of his chief life-work. It gave some of the results of six years' study on fossil Cephalopods, and was on the parallelism existing between the different stages of life in the individual and those of the tetrabranchiate Cephalopods as a group. It was published in 1866, the same year in which appeared Haeckel's " Generelle Morphologie," which, he (Haeckel) says, constituted the first attempt to apply the general doctrine of development to the whole range of organic morphology (anatomy and biogenesis). Although both of the Haeckelian principles of palingenesis and cenogenesis, with all their evolutional implications, were stated with considerable fullness by Fritz Müller in his " Für Darwin," published in 1864, Hyatt attempted to show that the life of the individual displays, to use his own words, "during its rise and decline, phenomena correlative with the rise and decline of the collective life of the group to which it immediately belongs." In this memoir he carried out and greatly amplified D'Orbigny's views, to which he gives the fullest credit, as to the changes of the larger number of Ammonites from larval, or to use his own term, nepionic, to adult, and from adult to senile stages. The theme, so often discussed by Agassiz before his students, that the development of the individual is an epitome of that of the order or class to which it belongs, with the later vital addition by F. Müller and by Haeckel of the evolution by actual descent, the principle now being

---

* " On the Parallelism between the Different Stages of Life in the Individual and those in the Entire Group of the Molluscous Order Tetrabranchiata." Memoirs Boston Soc. Nat. Hist., I. 1866.

called Haeckel's "biogenetic law," runs through and is the *motif* of Hyatt's life-long work.

Some of us in our maturer years return to or continue to work along the lines taken up in youth. Hyatt for a period of forty years, in a series of profound studies on the Cephalopods, in publications rich in exact observations and with ample illustrations, many of the drawings beautifully executed by his own hand, independently expanded and illustrated this fundamental phase of evolution, which so impressed him in his student days.

His remarkable memoir on the "Genesis of the Arietidae," published in 1889 in the Smithsonian "Contributions to Knowledge," and jointly with the Museum of Comparative Zoölogy, is a storehouse of facts on which his generalizations are based. When he presented his views to the National Academy of Science at a Washington meeting, Professor Henry expressed his approbation of the value and profoundity of this research. In this work he insists on his law of Morphogenesis, i. e., he attempts to demonstrate that "a natural classification may be made by means of a system of analysis in which the individual is the unit of comparison, because its life in all its phases, morphological and physiological, healthy or pathological, embryo, larva, adolescent, adult, and old (ontogeny), correlates with the morphological and physiological history of the group to which it belongs (phylogeny)."

In the beginning of his studies, contemporaneously with Cope, he insisted on the fact and results of a process of acceleration and retardation and the growth of the individual as well as the evolution of the family, order, or class of which it was a member.

"All modifications and variations," he says, "in progressive series tend to appear first in the adolescent or adult stages of growth, and then to be inherited in successive descendants at earlier and earlier stages according to the law of acceleration, until they either become embryonic, or are crowded out of the organization, and replaced in the development by characteristics of later origin."

Another of the nineteen conclusions prefacing this essay is No. 14: —

"The law of acceleration in development seems, therefore, to express an invariable mode of action of heredity, in the earlier reproduction of hereditary characteristics of all kinds and under all conditions. In progressive series it acts upon healthy characteristics, and appears to be an adaptation to favorable surroundings, and in retrogressive series upon pathological characteristics, and is probably an adaptation to unfavorable surroundings, usually leading to the extinction of the series or types."

This law of acceleration was, after the publication of Cope's and also of Hyatt's first paper (1870), arrived at independently by Würtenberger,* and adopted by the distinguished German paleontologist Neumayr, though he, apparently in ignorance of Hyatt's much earlier results, gives the credit for its discovery to Würtenberger, as does Weismann.

These changes Professor Hyatt insisted were primarily due to changes in the environment acting mechanically on the organism at different ages, the Lamarckian factors of use and disuse as well as environmental changes being constantly operative.

To explain the facts of retardation or abbreviated metamorphosis Dr. Hyatt formulates the law or process concerned in these phenomena, and which explain the mechanism of gradation, whether progressive or retrogressive, as follows: —

"Changes in environment, which introduce new adaptive characteristics in the nealogic or adult stages, necessarily add these to the hereditary stages of the younger periods of growth, and thus shorten the development of the latter by direct development." He goes on to illustrate this process by citing the changes of insects, of Taenia, and the loss of progressive characters correlated with a highly accelerated mode of development in man, due to a change from a horizontal to an upright position, and which, he says, were first pointed out nearly a century ago by Lamarck.

We will now, as briefly as the subject admits, trace the evolution of Professor Hyatt's views on evolution.

It has been objected to both Cope and Hyatt's theory that their law or process of acceleration and retardation are merely statements of facts. But both of these observers very soon after working out, each independently of the other, and in very different groups, these facts and processes, arrived at the conclusion that the changes they formulated were primarily due to the Lamarckian factors of change of environment, and to use and disuse.

They, with others of their contemporaries, rehabilitated and extended the Lamarckian factors and became the founders of the Neolamarckian school of evolutionists.

Hyatt's first public avowal of evolutional views was in a paper read in 1870,† though for several years he had practically adopted the theory of descent. His 1866 paper on "Parallelism," etc., was in this same vein of thought, but in this paper, conceived along evolutional lines, he did not explicitly state what were the actual dynamic agencies at work to produce the transformation from one form to another. His studies on the geological succession of the Ammonites, and the obvious genetic relations of the series he examined afterwards, naturally led him to adopt such views.

---

* Ausland, 1873.

† On Reversions among the Ammonites. Proc. Boston Soc. Nat. Hist., XIV. June, 1871.

He claimed in this paper that the reversionary species he examined "all descended from one." In 1873 he showed that in the Ammonoids there are everywhere instances of the slow accumulation of differences, according with the Darwinian method, and of their quick and sudden production, "according to the law of acceleration as explained by Cope and the writer, and subsequently by Mivart." *

His Lamarckian leanings, however, so far as his published works show, crop out in his "Abstract of a Memoir on the Biological Relations of the Jurassic Ammonites." † The stages of growth he describes are here directly attributed to the favorable nature of the physical surroundings, primarily producing characteristic changes which become perpetuated and increased by inheritance within the groups. The production of retrogressive, senile forms he attributes to "the action of unfavorable surroundings." He carefully guards against "attributing the origin of these differences to the law of natural selection," limiting the action of this law "strictly to the modification of the structural differences which tend to appear first in the varieties and then by inheritance in larger and larger groups and at earlier and earlier stages in the life of the individual."

Hyatt's beautiful research on the problems suggested by the fossil pond-snails of Steinheim near Stuttgart, Germany, is an important contribution both to paleontology and to evolutional data. Hilgendorf had previously (in 1866) described the conditions, and his results were regarded in Germany as amounting to a demonstration of the truth of the evolution theory. Hyatt, during a year's residence in 1872 near Stuttgart, spent five weeks examining the pits and made careful collections.

The discussion is a most valuable contribution to the theory of descent. Sir Richard Owen wrote him in 1881: "I cannot say more than that I deem it a model of the way and aim in and by which such researches should be conducted in the present phase of Biology."

Hyatt's patient and long sustained studies led him to the following conclusions:

---

* Proceedings Boston Soc. Nat. Hist., XVI. p. 167. Dec. 3, 1873.

† Ibid., XVII. pp. 236-241. Dec. 16, 1874.

1. The extraordinary modifications and series of shells found at Steinheim are in one way exceptional, and owe their existence to exceptional conditions.

2. These conditions appear to be the isolation of the modified descendants of *Planorbis laevis*, due to the absence of competing types and the character of the environment.

Besides other conclusions, he points out that in these and other series of animals which he had studied, "in a given number of generations inherited characteristics of every kind tend to appear in the descendants at earlier stages than that at which they first occurred in the ancestral forms."

These studies led him to explain the frequent occurrence of parallel forms, or, as they are now called, cases of convergence, also to examine into the causes of senescence, of geological extinction, etc. He maintained that there was no such thing as indefinite variation, and took strong ground, based on extended series of paleontological data, as to the reality of use-inheritance. In this as well as his other memoirs he insists on the inadequacy of natural selection in causing variation and the formation of new groups.

In a later work, entitled "Phylogeny of an Acquired Characteristic," * Hyatt is at his best. The results of a life-long study of the genetic series of Cephalopods, of their rise, culmination, decay or senile features, and their final extinction, are portrayed in a masterly way. His conclusions are based on the careful detailed survey of a multitude of facts, and the story he unravels from the series upon series of fossil forms which passed in review before eyes so well trained, and a mind so skilled in induction and deduction, forms a chapter in the history of organic evolution which will remain a classic.

It was only after long years of research, and the most patient, thoughtful reflection on the series of facts he independently worked out, by his study of the embryology of the protoconch and conch of the Orthoceratites, and their successors the Nautiloids and Ammonoids, that he thus describes the gross results in a few sentences which show the mode of origin of new orders through the Lamarckian factors of effort and use. In this essay Hyatt struck the keynote to the cause of the origin of new types, or class and ordinal forms, i. e. by the changes in habits, and efforts of the organism to adapt itself to such new conditions of existence.

---

* Phylogeny of an Acquired Characteristic. Proc. Amer. Phil. Soc., XXXII. p. 371 (1894).

These are the Lamarckian or dynamic agencies of use and disuse, brought into action by environmental changes.

"The *efforts*," he says, "of the Orthoceratite to adapt itself fully to the requirements of a mixed habitat of swimming and crawling gave rise to the Nautiloidea; the efforts of the same type to become completely a littoral crawler evolved the Ammonoidea. The successive forms of the Belemnoidea arose in the same way. But here the ground-swimming habitat and complete fitness for that was the object. The Sepioidea, on the other hand, represent the highest aims as well as the highest attainments of the Cephalopods in their evolution into surface-swimming and rapacious forms. We cannot seriously imagine these changes to have resulted from intelligent effort; but we can, with Lamarck and Cope, picture them as due to efforts on the part of the animal to take up new quarters in its environment and thus acquire habits and structures suitable to the changed physical requirements of its surroundings, and this position is better supported by facts than any other hypothesis."

Here are some examples of the complete and thoroughgoing way in which Hyatt thought out, during his painfully slow but sure investigation of facts, broad generalizations which we feel confident will stand the test of time and farther research.

After speaking of "the effort to change of habitat and consequently change of habits," due to change of environment, and of changes in structure resulting from the efforts on the part of the organism to meet the changes in the physical surroundings, he adds: "That this process should end in the production of structures suited to the environment is inevitable. *With these factors at work, both without and within the organism, the evolution of their structures obeys a physical law which acts amid a thousand disturbing forces, perhaps, but nevertheless must act with predominating force in one mean path or direction, the resultant determined by the environment and the inherited structures of the organism.*"

Another beautiful research was his attempt to account by gravity for the spiral shell of molluscs. He points out the fact of an obvious correlation between the coiling of the shell and the habit of crawling. He shows that those gastropod shells which degenerate and tend to lose the spiral mode of growth and become irregularly straightened out in their older stages of growth, are forms which become attached or which lead sedentary lives, i. e. Vermetus attached late in life, and Magilus which lives buried in coral. He points out the tendency in the descendants of straight shells (Orthoceratites, etc.) to become, as the result of assuming reptant habits, first arcuate and then coiled; these being acquired characters which have been "introduced late in the ontogeny and gradually forced back to younger and younger stages in successive generations, or species, or genera." He also accounts for the peculiar horizontal growth of the oyster, pecten, etc., by their fixed mode of life.

These observations, modes of investigations, and laws or principles so carefully thought out, are the work of a master in biology. They already have been most fruitful in their results, and have been found to apply in other groups of organized beings. Hyatt was thus the founder of a new school in paleontology, and the brilliant results of the work of a younger generation of paleontologists, viz., Beecher, Jackson, Suchert, Smith, and others, all of whom acknowledge him as their master, afford the best of proof of our claim. Certainly the same principles we think will apply to Crustacea, and also to insects, as Hyatt has claimed, and they were applied to vertebrates by Cope and his successors in vertebrate paleontology. For all this work Hyatt's name will forever be associated with the names of Agassiz, Barrande, Neumayr, Waagen, Mojsisovics, and others who have worked along these lines.

Hyatt's systematic work on the Cephalopods was very extensive. It will be remembered that there are estimated to be about twenty-five hundred species of Nautiloids and five thousand species of Ammonoids. The results of his labors may be seen in the portion he contributed to the translation by Dr. Eastman of the condensed American edition of Zittel's Paleontology.

In systematic work on the Ammonites Hyatt followed hard after Suess, who in 1865 inaugurated the subdivision of the group into genera. As stated by Zittel:* "A similar reform was advocated by Alpheus Hyatt in his memoir on the Liassic Ammonites (1869). The previous nomenclature of families was discarded by Hyatt, and numerous new genera were erected, whose limits were much more narrowly defined than had been customary. As one might have expected, the new tendency met at first with strong opposition, but it was supported and followed by Laube, Zittel, Mojsisovics, Waagen, and Neumayr."

Dr. Hyatt was not a voluminous writer, but his works are solid, original, independent contributions to science, and will stand, if we mistake not, the test of time.

He was elected a member of the National Academy of Science in 1875, and since 1897 has been a corresponding member of the Geological

---

* Zittel's History of Geology and Palaeontology. Translated by M. M. Ogilvie-Gordon. 1891. p. 403.

Society of London. In 1898 he received from Brown University the degree of Doctor of Laws. At the time of his death (Feb. 15, 1902) he was the Vice-president of Class II. of this Academy.

Endowed by nature with talents of a high order, he cultivated and, to use his own favorite phrase, accelerated their development and increase through his life. His strength of character is evinced by the forceful influence he exerted both in scientific and educational channels.

"*Talent*," says Baron Osten Sacken, the venerable diplomatist and naturalist, "is a gift of nature, and does not, for that reason, constitute in itself a merit; the merit lies in the *character* which makes talent fruitful." And that profound genius and master in biology — Von Baer — has said: "In the domain of Science, talent alone, coupled with diligence and *the power of self-control*, is of any value." *

We close this notice of our departed friend, who endeared himself to his associates so closely by his amiable and manly qualities, feeling sure that posterity will confirm the estimate here given of his worth as a man, and of the secure place he will hold as a master in science.

A. S. Packard.

JOHN DANIEL RUNKLE.

John Daniel Runkle was born at Root, N. Y., October 11, 1822, and died at Southwest Harbor, Me., July 8, 1902, near the close of his eightieth year.

The early years of life on the farm offered little opportunity for study, and he was already twenty-five when he entered the newly established Lawrence Scientific School of Harvard University. His name stands alone in the catalogue of 1848–49 as "student in mathematics." John W. Draper and James E. Oliver were fellow students; Josiah P. Cooke and William T. Harris, resident graduates. He was a member of the first graduating class, of 1851, with Joseph Le Conte and David A. Wells, receiving the degree of Bachelor of Science, and at the same time, for high scholarship, the honorary degree of Master of Arts.

The work of computation for the Nautical Almanac was carried on at this time in Cambridge by a staff including, among other men of subsequent eminence, Simon Newcomb, Asaph Hall, George W. Hill, T. H.

---

* Quoted from "An Introduction to the Record of my Life-work in Entomology." By C. R. Von Osten Sacken. 1901.